

FIG. 1

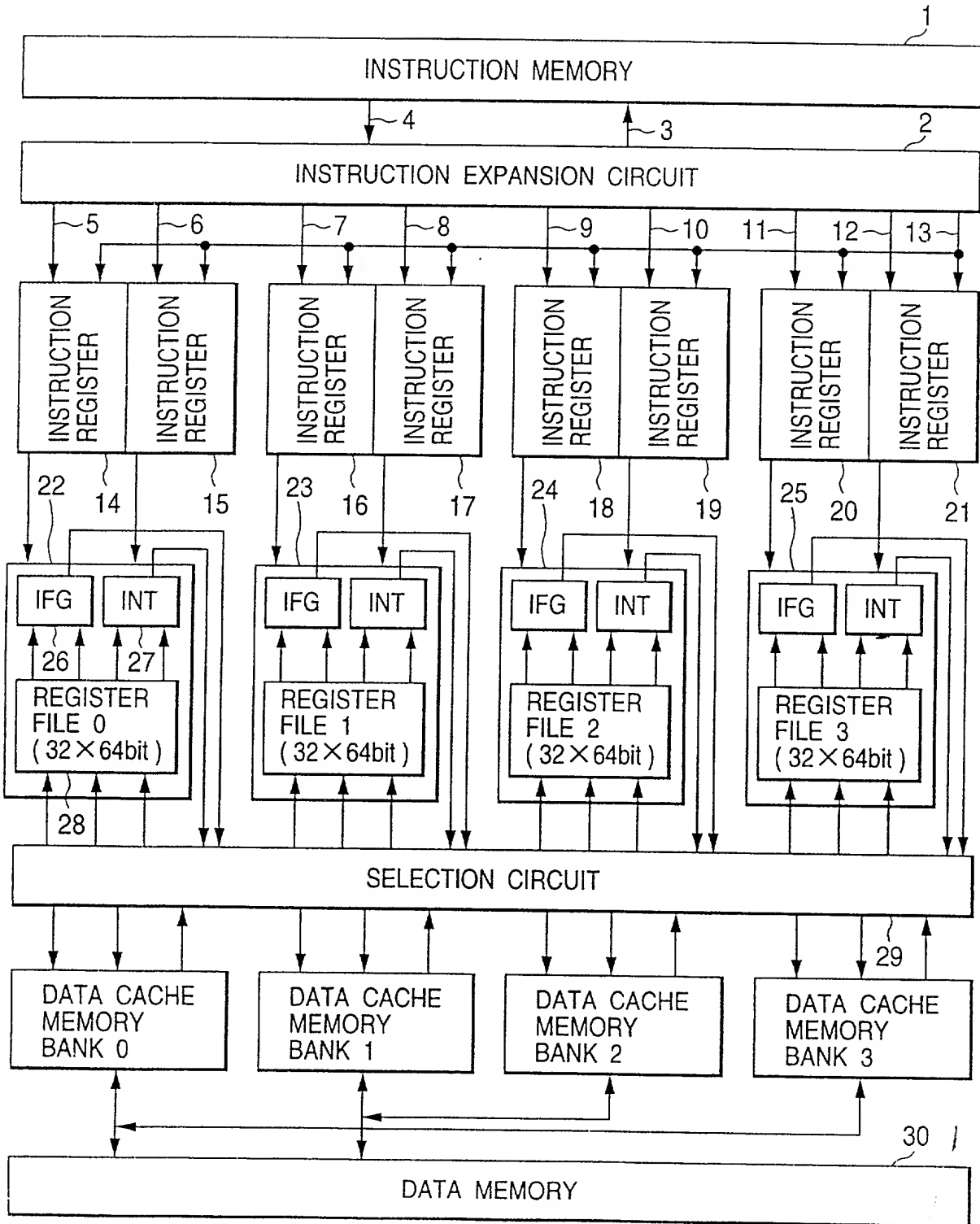
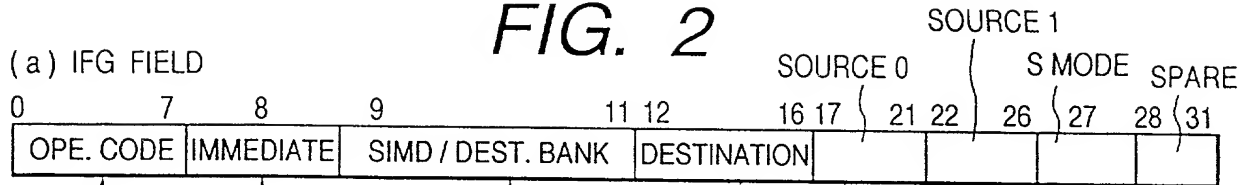


FIG. 2

(a) IFG FIELD



DESIGNATION OF
OPERATIONS (256 KINDS MAX.)

0 => CONTENT OF THE SOURCE 1
IS A REGISTER NO.
1 => CONTENT OF THE SOURCE 1
IS AN IMMEDIATE VALUE

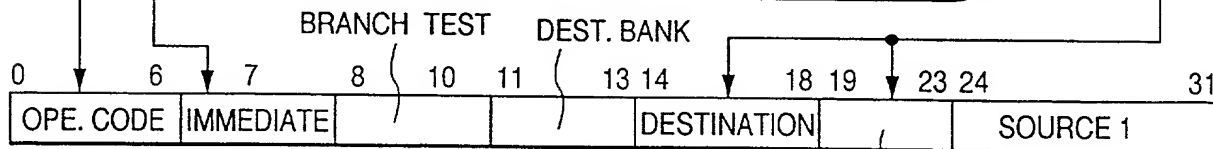
0 => NORMAL MODE
1 => SIMD MODE

IMMEDIATE VALUE (0~31)
(WHEN IMMEDIATE = 1)
REGISTER NO. (0~31)
(WHEN IMMEDIATE = 0)

DEST. BANK (WHEN S MODE = 0)
SAME WITH INT FIELD
SIMD (WHEN S MODE = 1)
DESIGNATE AN INSTRUCTION EXECUTED BY
THREE OTHER BANKS
0 => NOP
1 => EXECUTE THE SAME INSTRUCTION
CORRESPONDENCE BETWEEN THE BIT
POSITION AND THE BANK CHANGES IN
ACCORDANCE WITH THE INSTRUCTION
REGISTER, AS SHOWN IN THE TABLE BELOW

POSITION OF THE INSTRUCTION REGISTER	CORRESPONDENCE BETWEEN SIMD BIT POSITION AND THE BANK #		
	9	10	11
INSTRUCTION REGISTER 14	BANK 1	BANK 2	BANK 3
INSTRUCTION REGISTER 16	BANK 0	BANK 2	BANK 3
INSTRUCTION REGISTER 18	BANK 0	BANK 1	BANK 3
INSTRUCTION REGISTER 20	BANK 0	BANK 1	BANK 2

REGISTER
NO.
(0~31)



(b) INT FIELD

000 => FAULSE
001 => TRUE
010 => BRANCH BANK REGISTER 2
011 => BRANCH BANK REGISTER 3
100 => BRANCH BANK REGISTER 4
101 => BRANCH BANK REGISTER 5
110 => BRANCH BANK REGISTER 6
111 => BRANCH BANK REGISTER 7

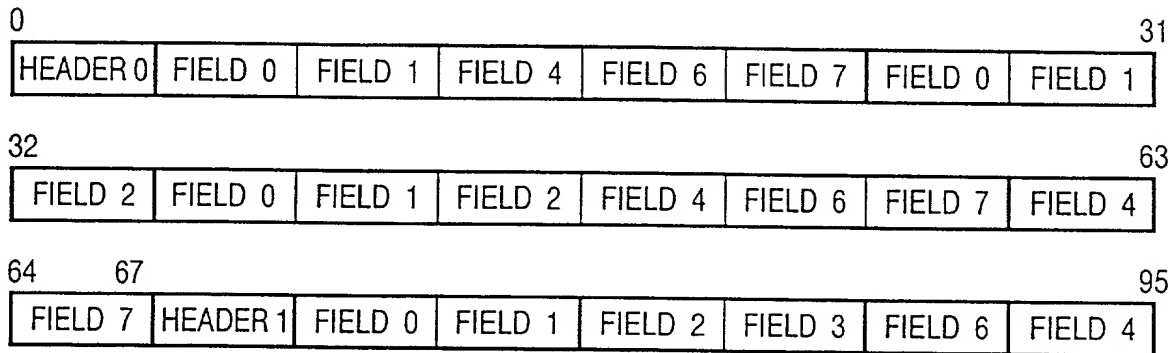
000 => BANK 0
001 => BANK 1
010 => BANK 2
011 => BANK 3
100 => BANK 4
101 => BANK 5
110 => BANK 6
111 => BANK 7

SOURCE 0

IMMEDIATE VALUE (0~255)
(WHEN IMMEDIATE = 1)
REGISTER NO. (0~31)
(WHEN IMMEDIATE = 0)

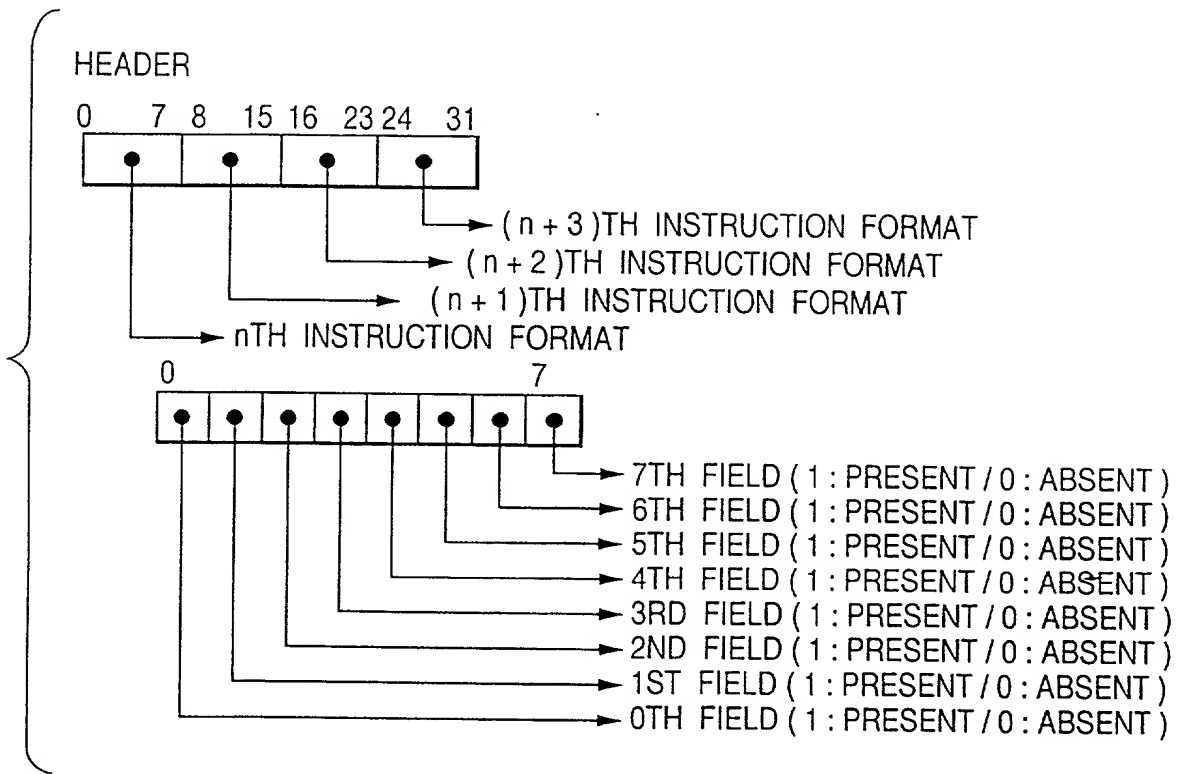
FIG. 3

AN EXAMPLE OF A PROGRAM STORAGE INTO THE INSTRUCTION MEMORY



1ST INSTRUCTION (ADDRESS NOS. 4 ~ 23)
 2ND INSTRUCTION (ADDRESS NOS. 24 ~ 35)
 3RD INSTRUCTION (ADDRESS NOS. 35 ~ 59)
 4TH INSTRUCTION (ADDRESS NOS. 60 ~ 67)
 5TH INSTRUCTION (ADDRESS NOS. 72 ~ 79)
 6TH INSTRUCTION (ADDRESS NOS. 80 ~ 87)
 7TH INSTRUCTION (ADDRESS NOS. 88 ~ 91)
 8TH INSTRUCTION (ADDRESS NOS. 92 ~ 95)

FIG. 4



HEADER 0

0	7	8	15	16	23	24	31
1	1	0	0	1	0	1	1
1	1	1	1	1	0	0	0
0	0	0	0	0	1	1	1
0	1	0	1	0	1	1	0
0	0	0	0	0	1	0	0
1	0	0	1				

1 (n)TH INSTRUCTION FORMAT

0							255
FIELD 0	FIELD 1	NOP	NOP	FIELD 4	NOP	FIELD 6	FIELD 7

2 (n+1)TH INSTRUCTION FORMAT

0							255
FIELD 0	FIELD 1	FIELD 2	NOP	NOP	NOP	NOP	NOP

3 (n+2)TH INSTRUCTION FORMAT

0							255
FIELD 0	FIELD 1	FIELD 2	NOP	FIELD 4	NOP	FIELD 6	FIELD 7

4 (n+3)TH INSTRUCTION FORMAT

0							255
NOP	NOP	NOP	NOP	FIELD 4	NOP	NOP	FIELD 7

[illegible]

0								255							
FIELD 0	FIELD 1	NOP	NOP	FIELD 4	NOP	FIELD 6	FIELD 7								

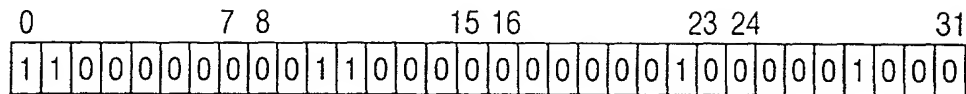
0					255				
FIELD 0	FIELD 1	FIELD 2	NOP	NOP	NOP	NOP	NOP		

0								255							
FIELD 0	FIELD 1	FIELD 2	NOP	FIELD 4	NOP	FIELD 6	FIELD 7								

<div style="display: flex; justify-content: space-between; width: 100%;"> 0 255 </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">FIELD 4</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">NOP</td> <td style="width: 12.5%; border: 1px solid black; padding: 5px;">FIELD 7</td> </tr> </table>								NOP	NOP	NOP	NOP	FIELD 4	NOP	NOP	FIELD 7
NOP	NOP	NOP	NOP	FIELD 4	NOP	NOP	FIELD 7								

FIG. 6

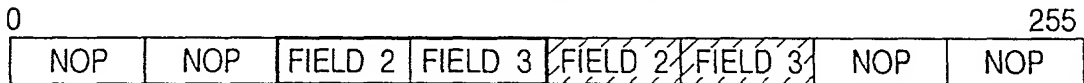
HEADER 1



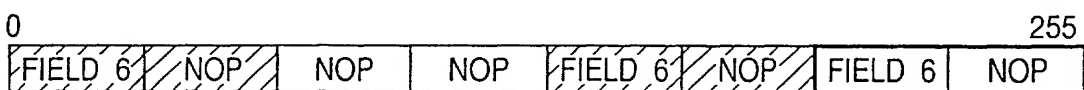
5 (n)TH INSTRUCTION FORMAT S MODE = 1
SIMD = 111



6 (n+1)TH INSTRUCTION FORMAT S MODE = 1
SIMD = 010



7 (n+2)TH INSTRUCTION FORMAT S MODE = 1
SIMD = 101



8 (n+3)TH INSTRUCTION FORMAT S MODE = 1
SIMD = 001

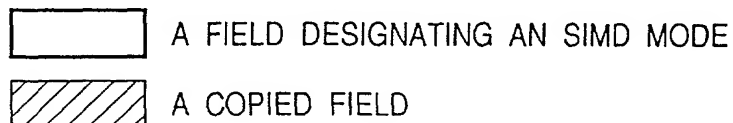
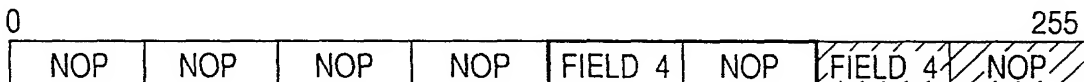


FIG. 7

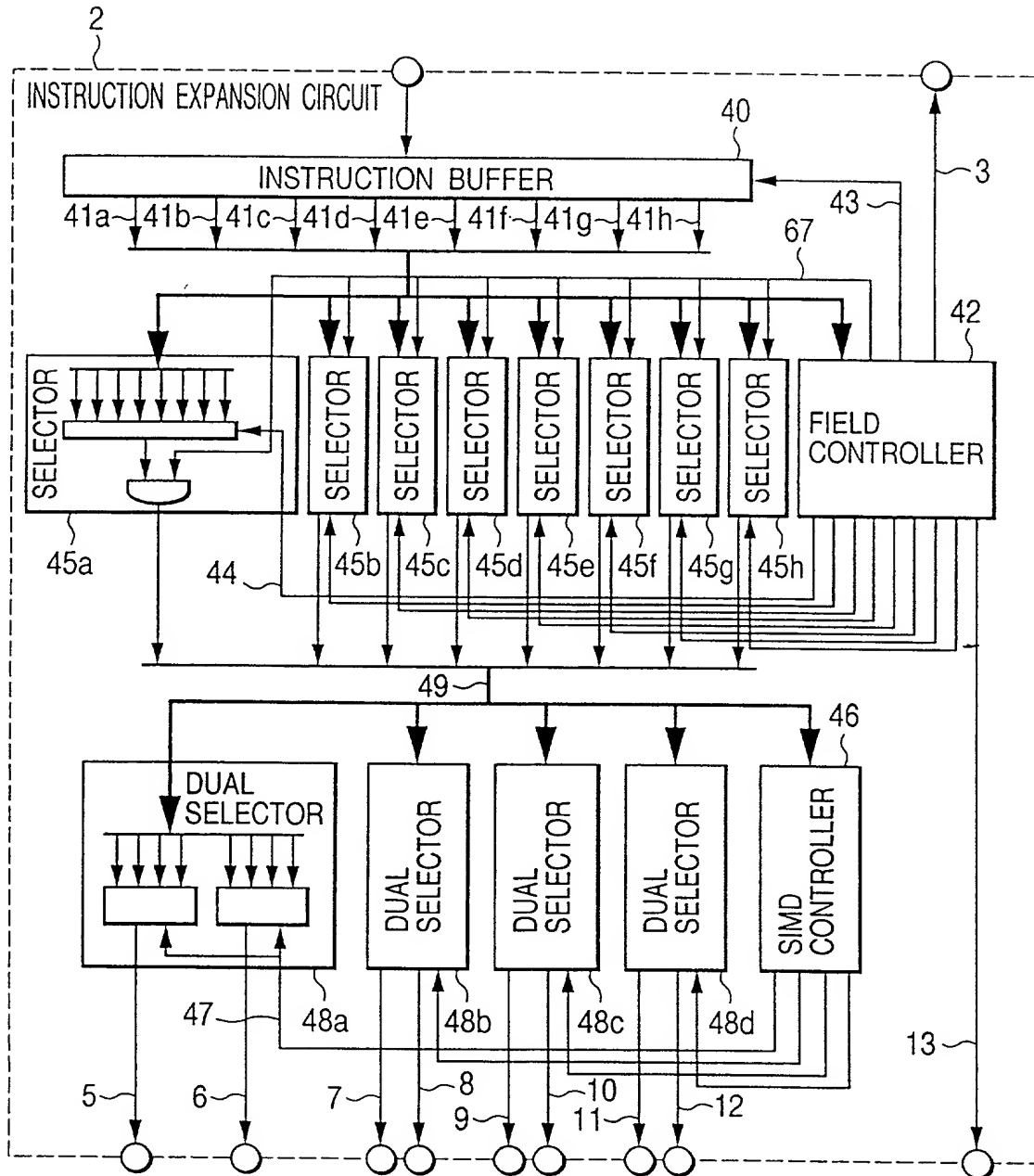


FIG. 8

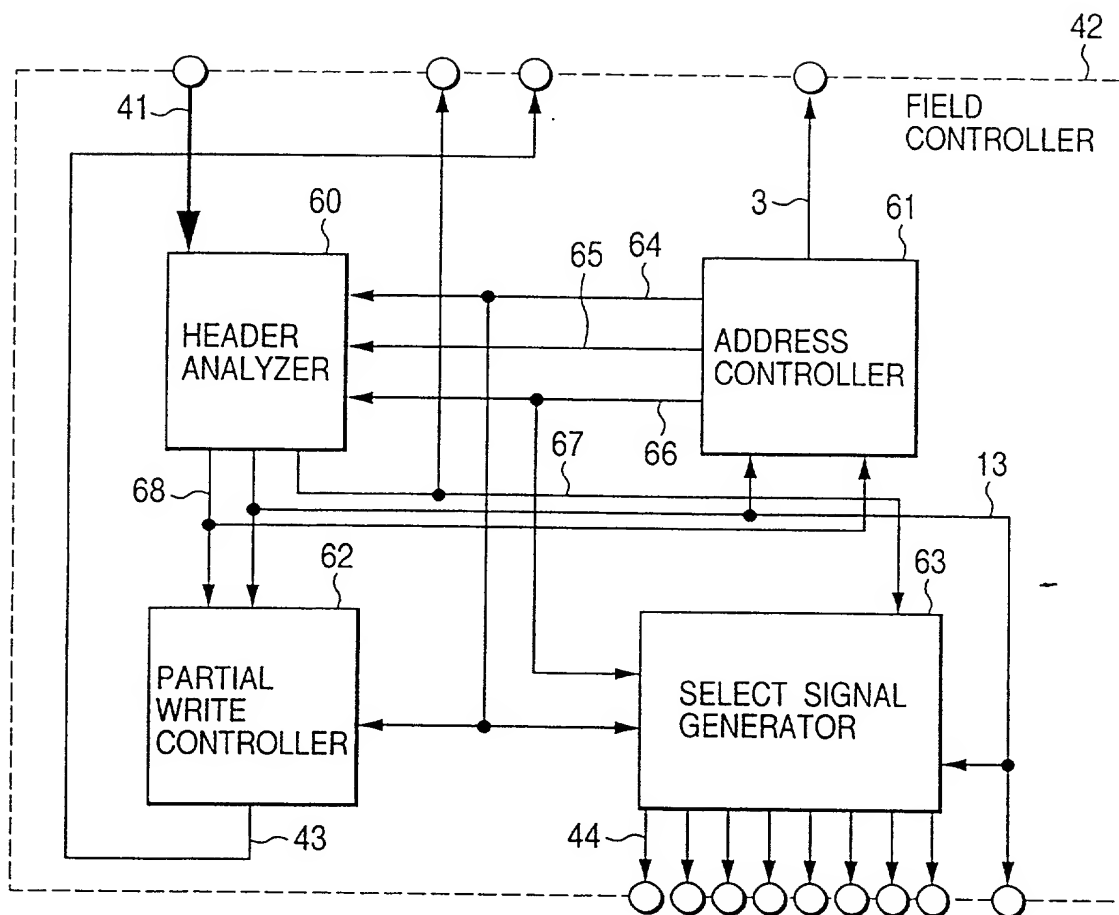


FIG. 9

AN EXAMPLE OF A PROGRAM STORAGE INTO THE INSTRUCTION MEMORY

0							31
HEADER	FIELD 0	FIELD 1	FIELD 4	FIELD 6	FIELD 7	FIELD 0	FIELD 1
32							63
FIELD 2	FIELD 0	FIELD 1	FIELD 2	FIELD 3	FIELD 4	FIELD 5	FIELD 6
64	72						95
FIELD 7	FIELD 0	HEADER	FIELD 0	FIELD 1	FIELD 2	FIELD 3	FIELD 4
96	108						127
FIELD 5	FIELD 6	FIELD 7	FIELD 1	FIELD 2	FIELD 3	FIELD 0	FIELD 4

FIG. 10

T0	T1	T2	T3	T4	T5	T6	T7	T8
IF	EXP	EXE	WB	INSTRUCTION 1				
INSTRUCTION 3	IF	EXP	EXE	WB	INSTRUCTION 2			
	IF	EXP	EXE	WB				
	INSTRUCTION 4		IF	EXP	EXE	WB		
	INSTRUCTION 5		IF	EXP	EXP2	EXE	WB	
				INSTRUCTION 6		IF	EXP	EXE
REFETCH	SIGNAL	LINE 13						
0	0	0	0	0	0	1	0	0
INSTRUCTION LENGTH			SIGNAL LINE 68					
0	24	12	32	4	36	0	12	8
INSTRUCTION ADDRESS BUS				64				
0	0	24	36	68	72	108	108	120
ADDRESS BUS 3								
0	32	56	68	100	104	136	140	152
WRITE ENABLE BUS 43								
11111111	11111100	10000011	11111111	01000000	11111111	00100000	00011100	00000011
DATA LATCHED IN THE INSTRUCTION BUFFER ⁴⁰ (INDICATED IN CORRESPONDENCE WITH FIG.9)								
HEADER ADDRESS BUS		65						
0	0	1	2	3	0	1	1	2
FIELD 0 (SELECT SIGNAL 44)								
0	1	6	1	1	3	-	-	6
FIELD 1	2	7	2	-	4	-	3	-
FIELD 2	-	0	3	-	5	-	4	-
FIELD 3	-	-	4	-	6	-	5	-
FIELD 4	3	-	5	-	7	-	-	7
FIELD 5	-	-	6	-	0	-	-	-
FIELD 6	4	-	7	-	1	-	-	-
FIELD 7	5	-	0	-	-	2	-	-

FIG. 11

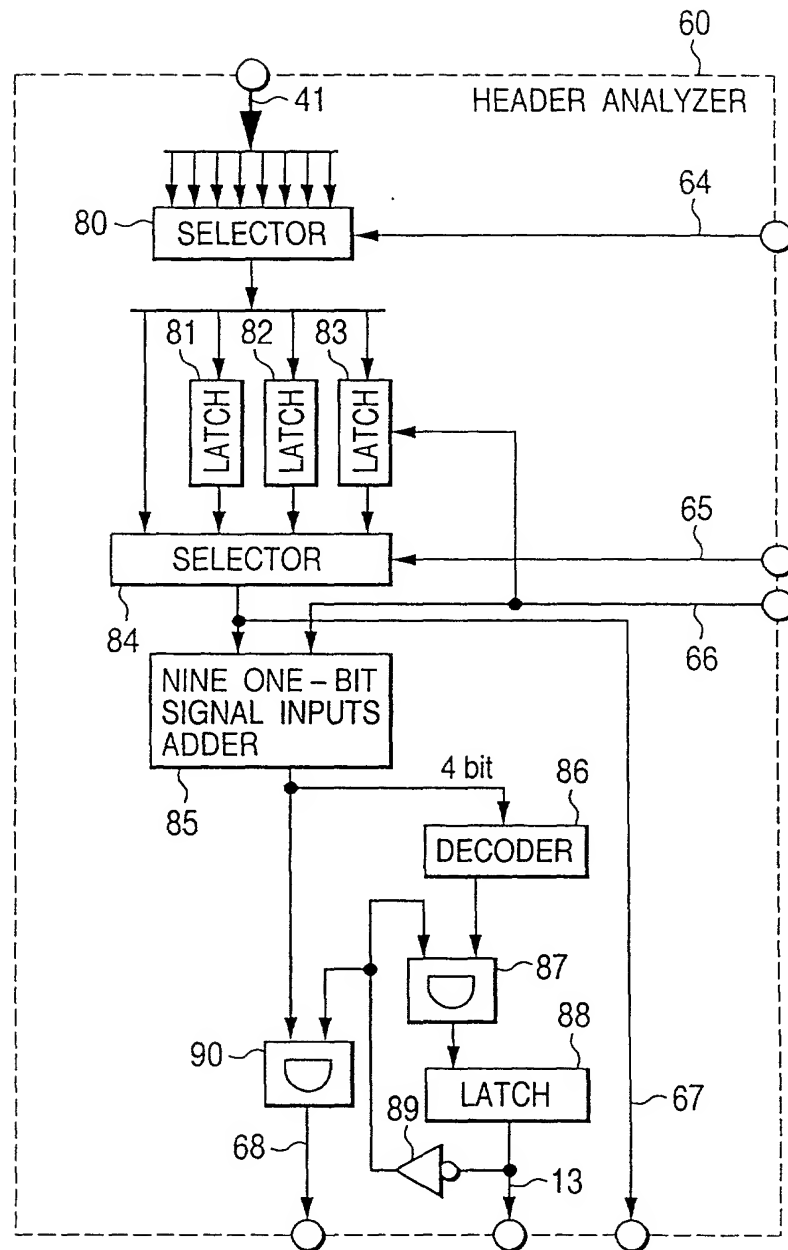


FIG. 12

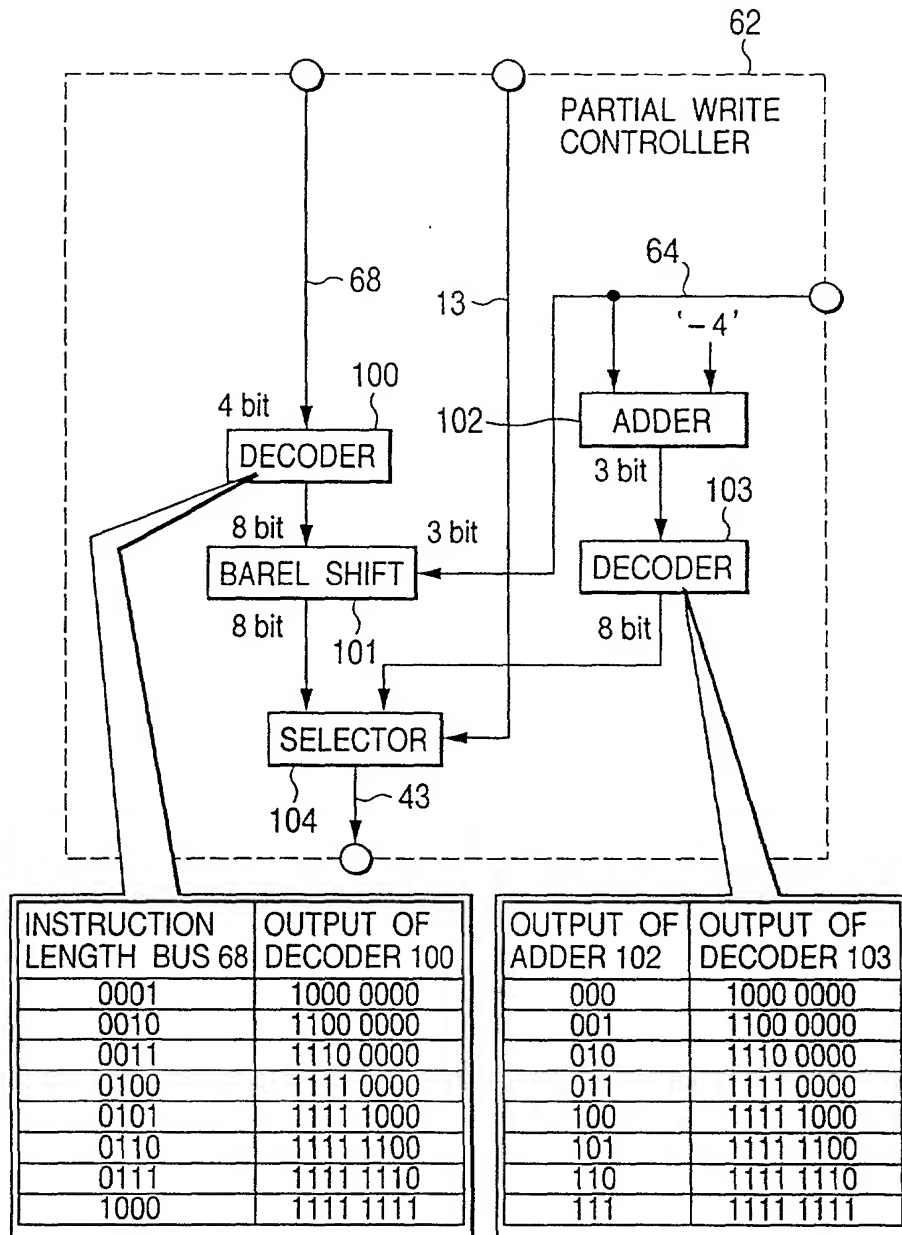


FIG. 13

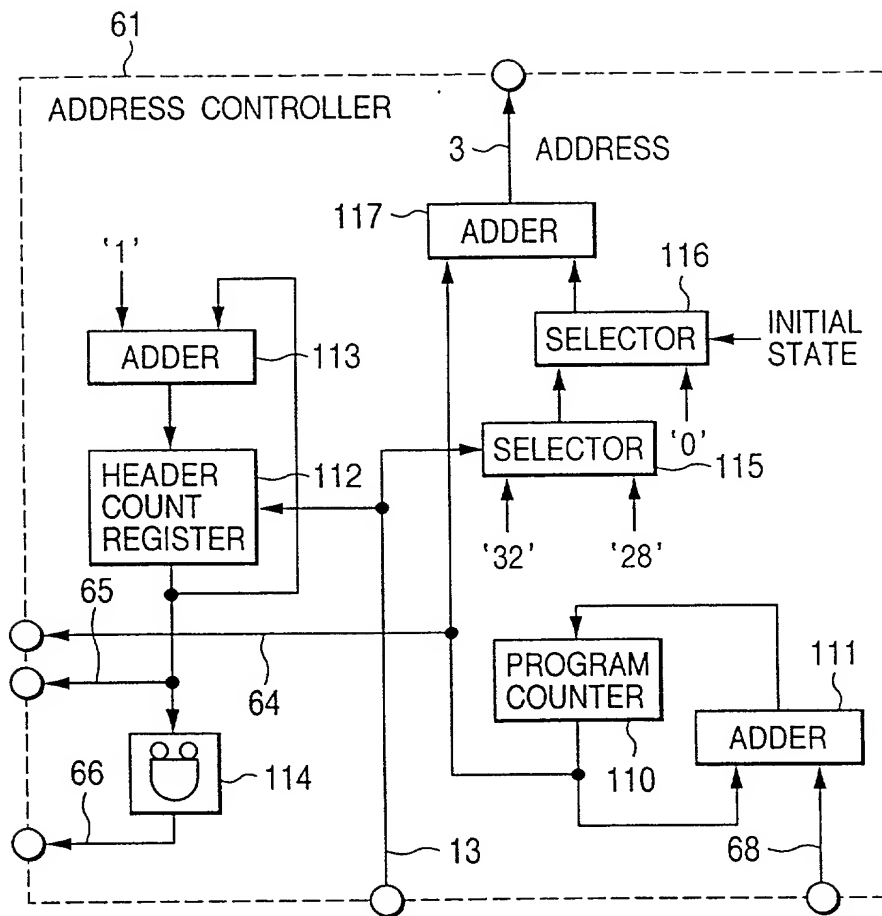


FIG. 14

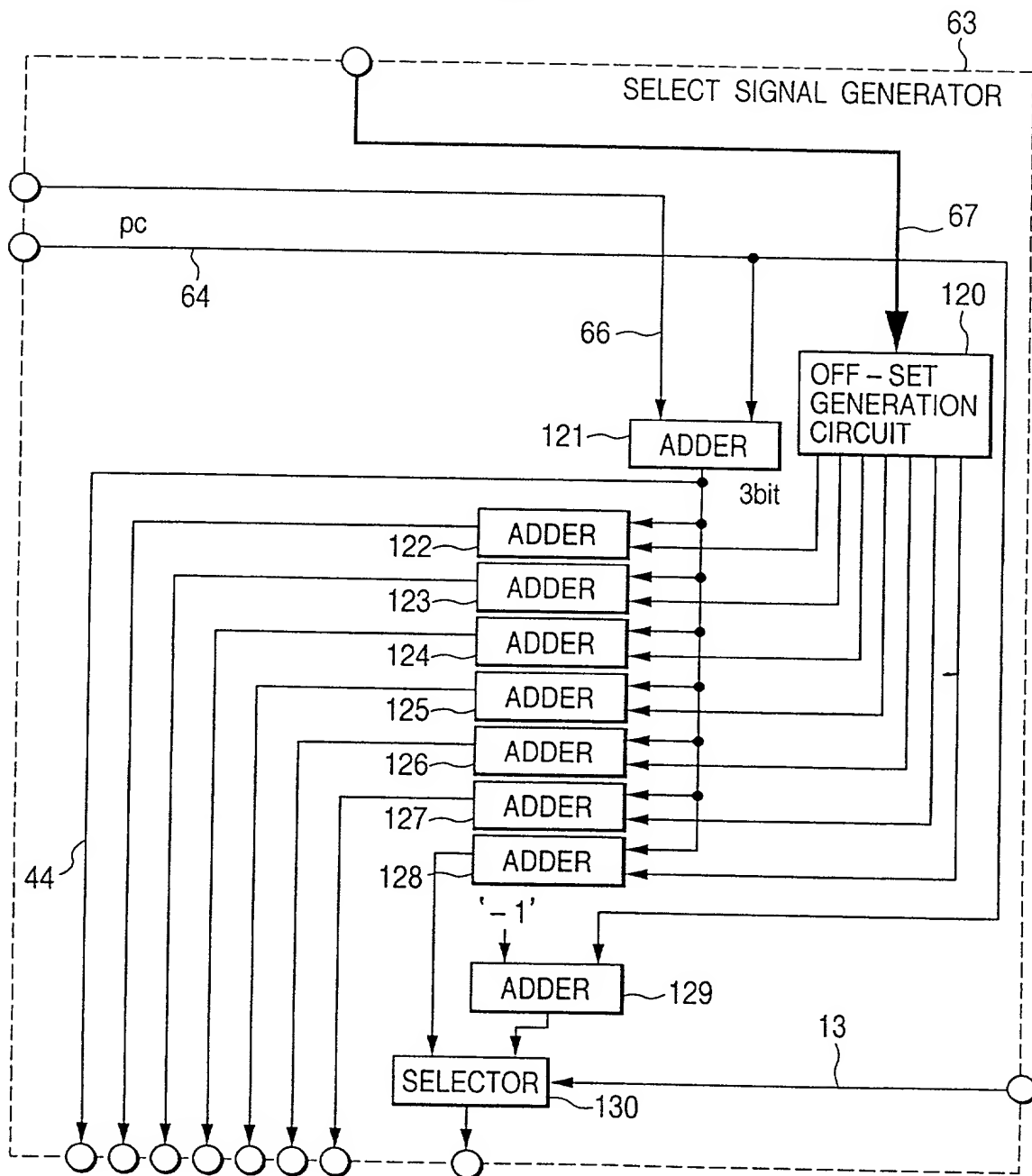


FIG. 15

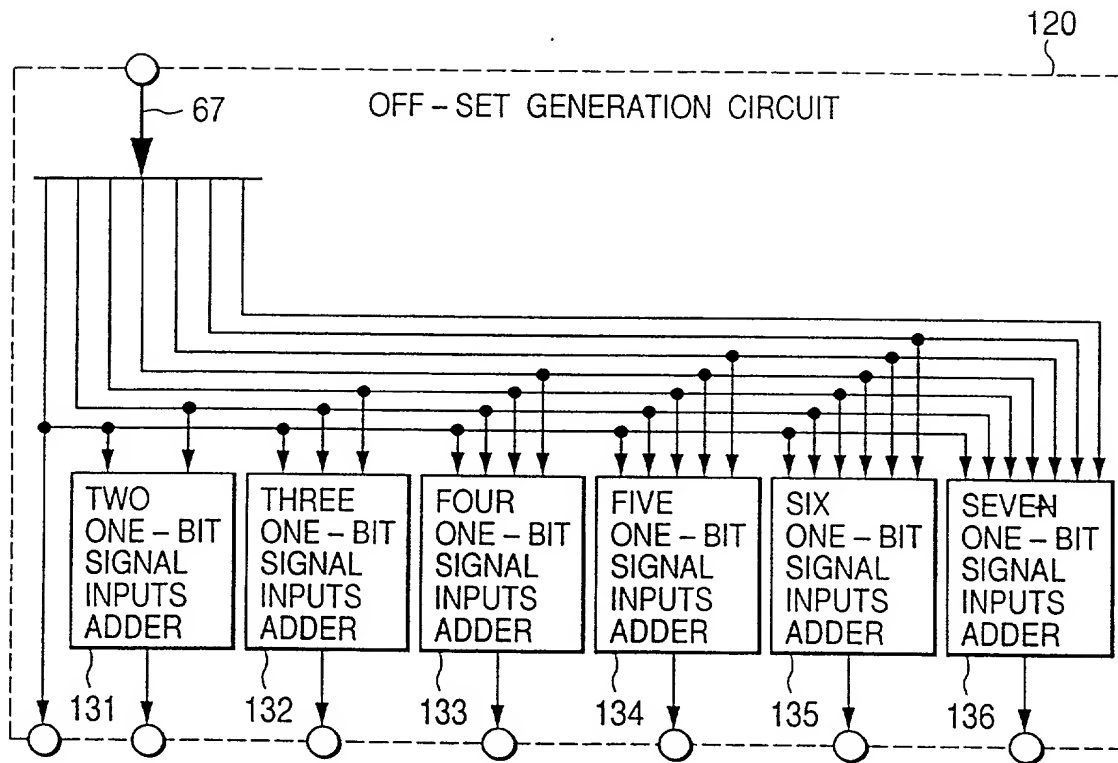


FIG. 16

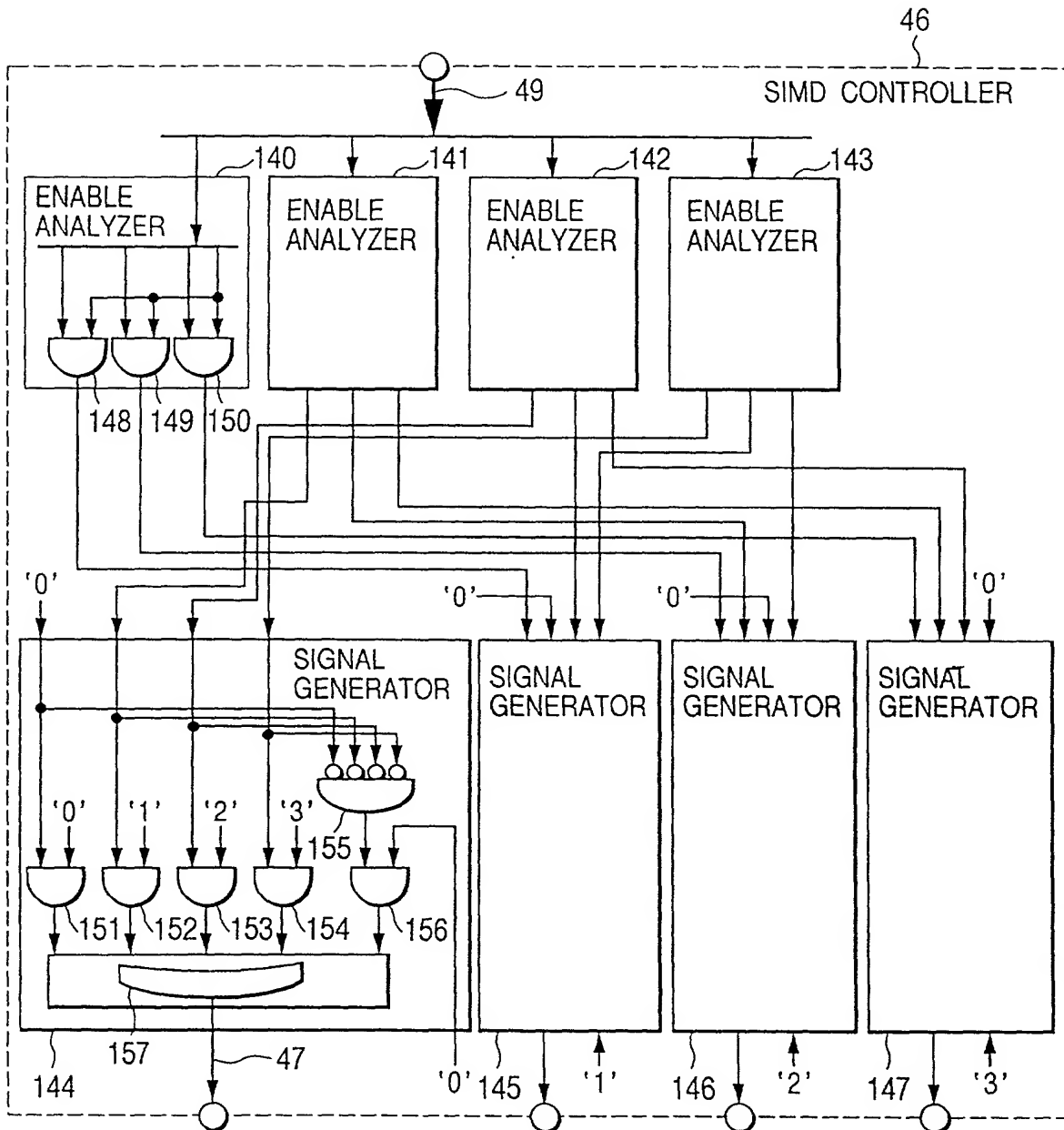


FIG. 17

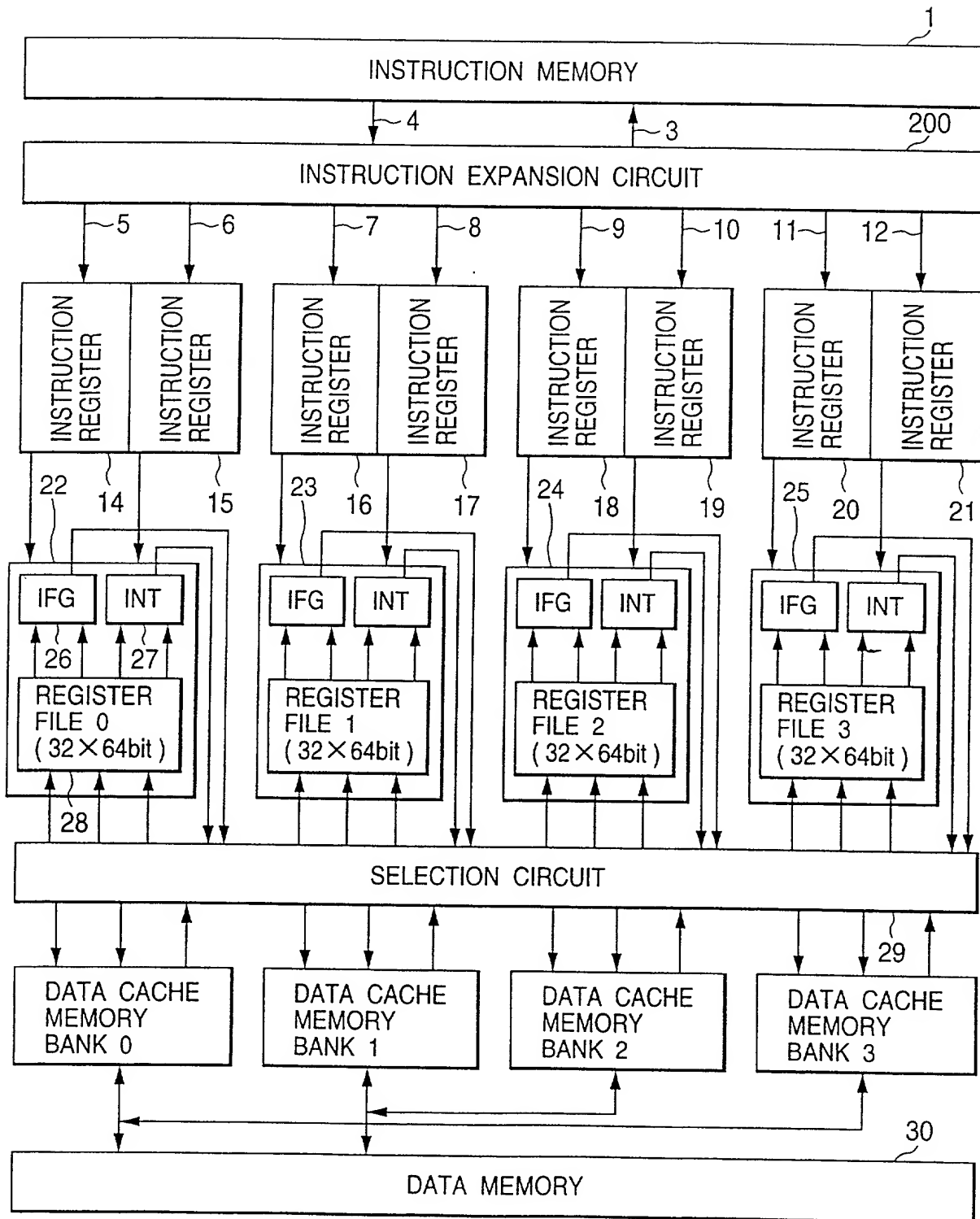


FIG. 18

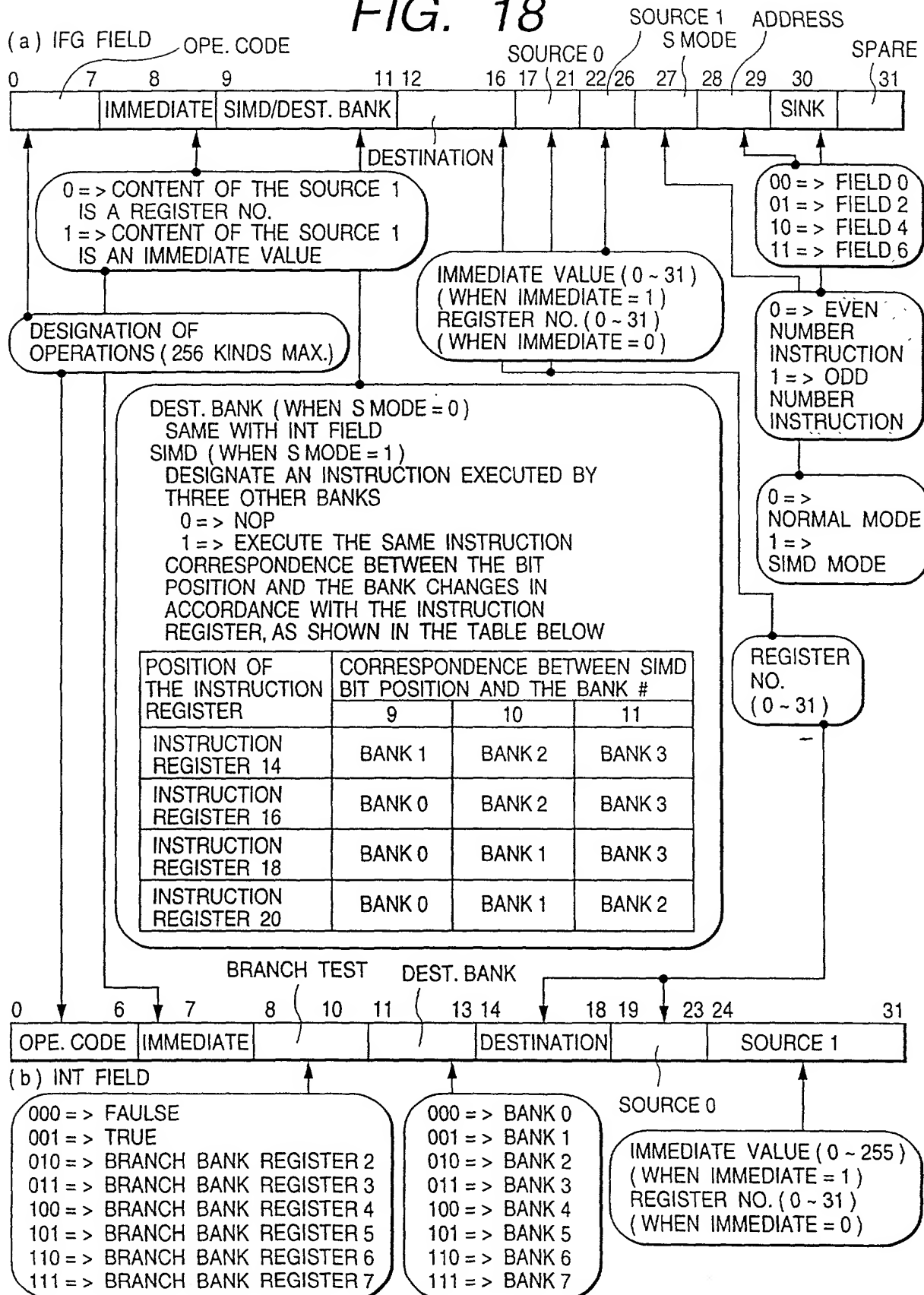


FIG. 19

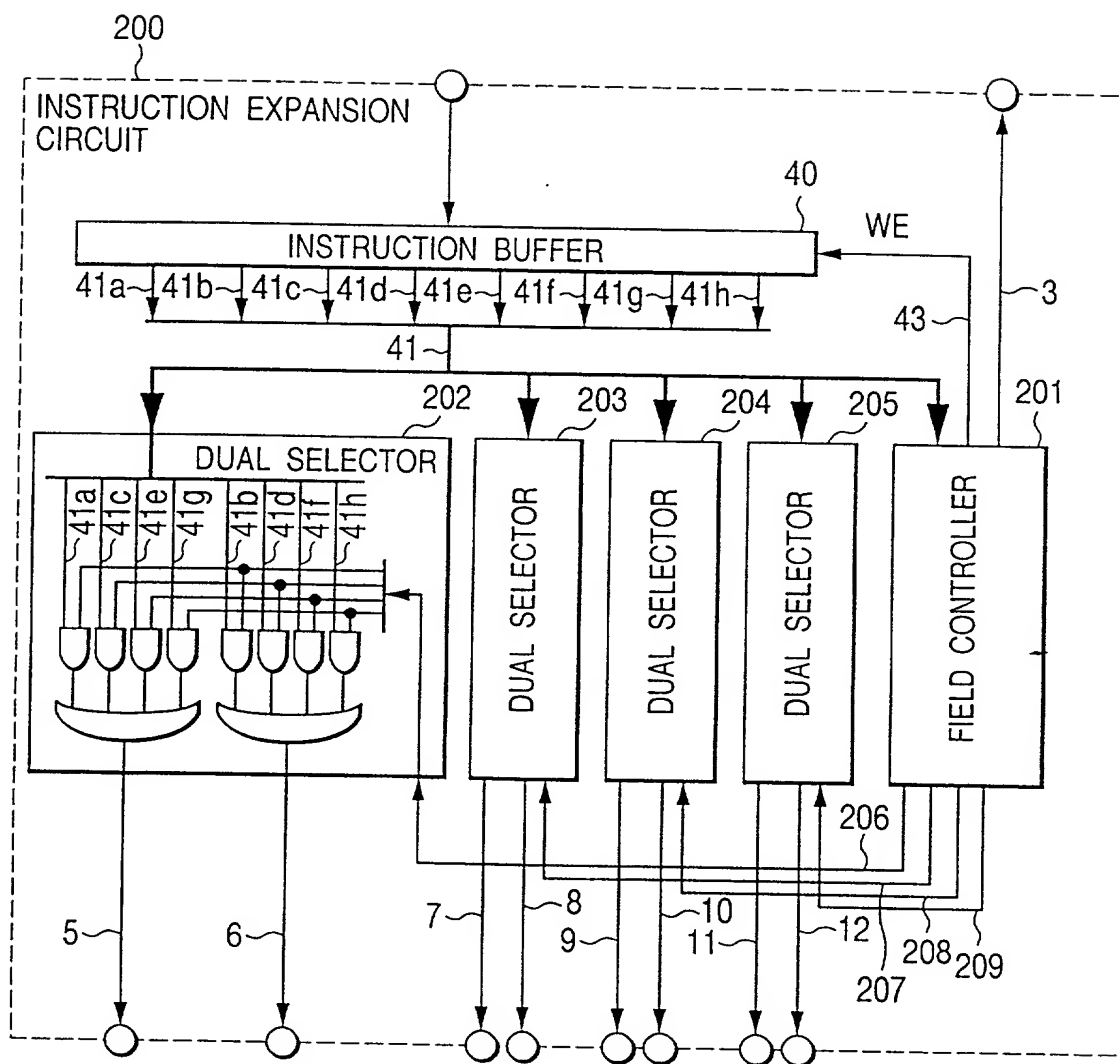


FIG. 20

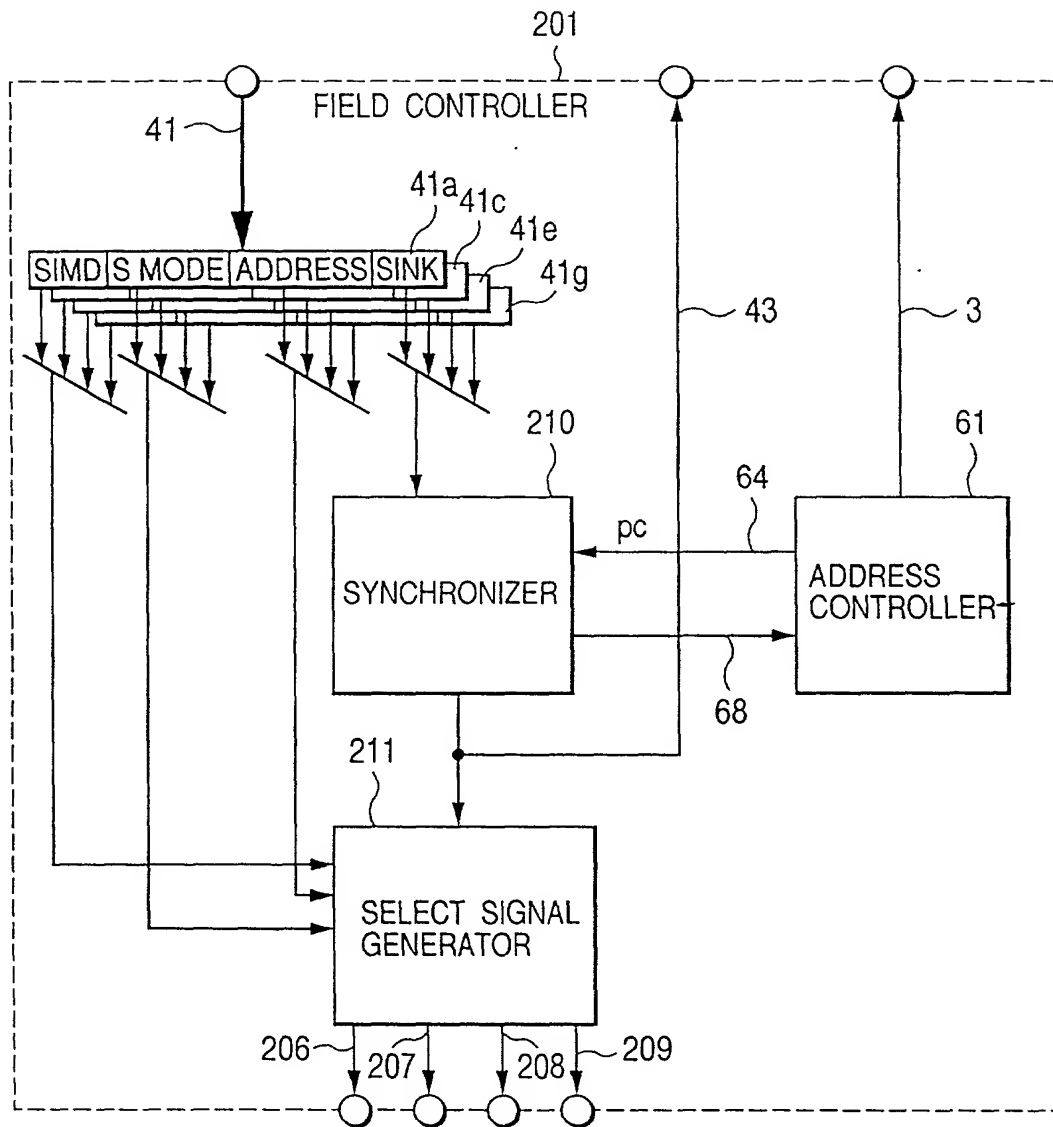


FIG. 21

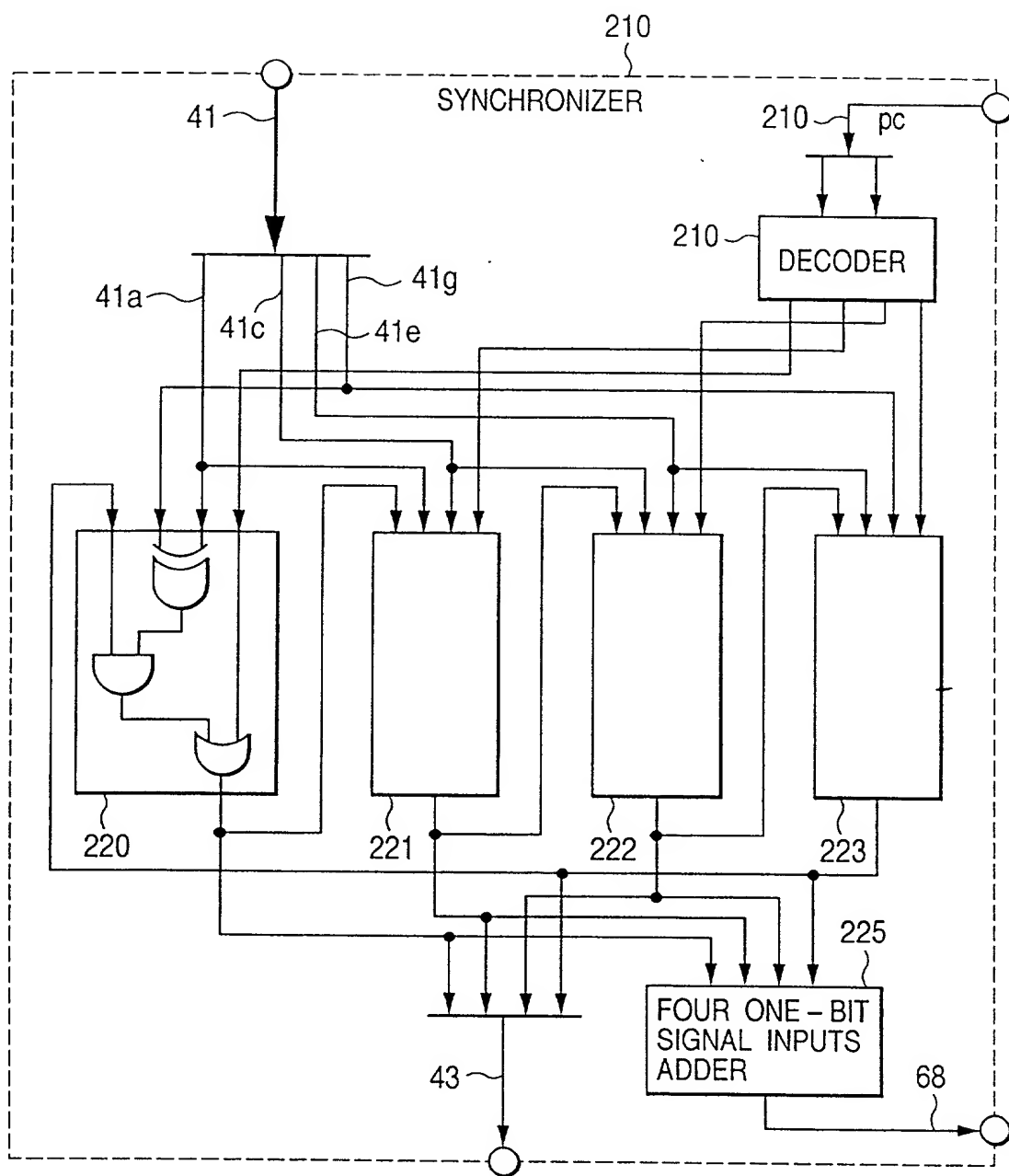


FIG. 22

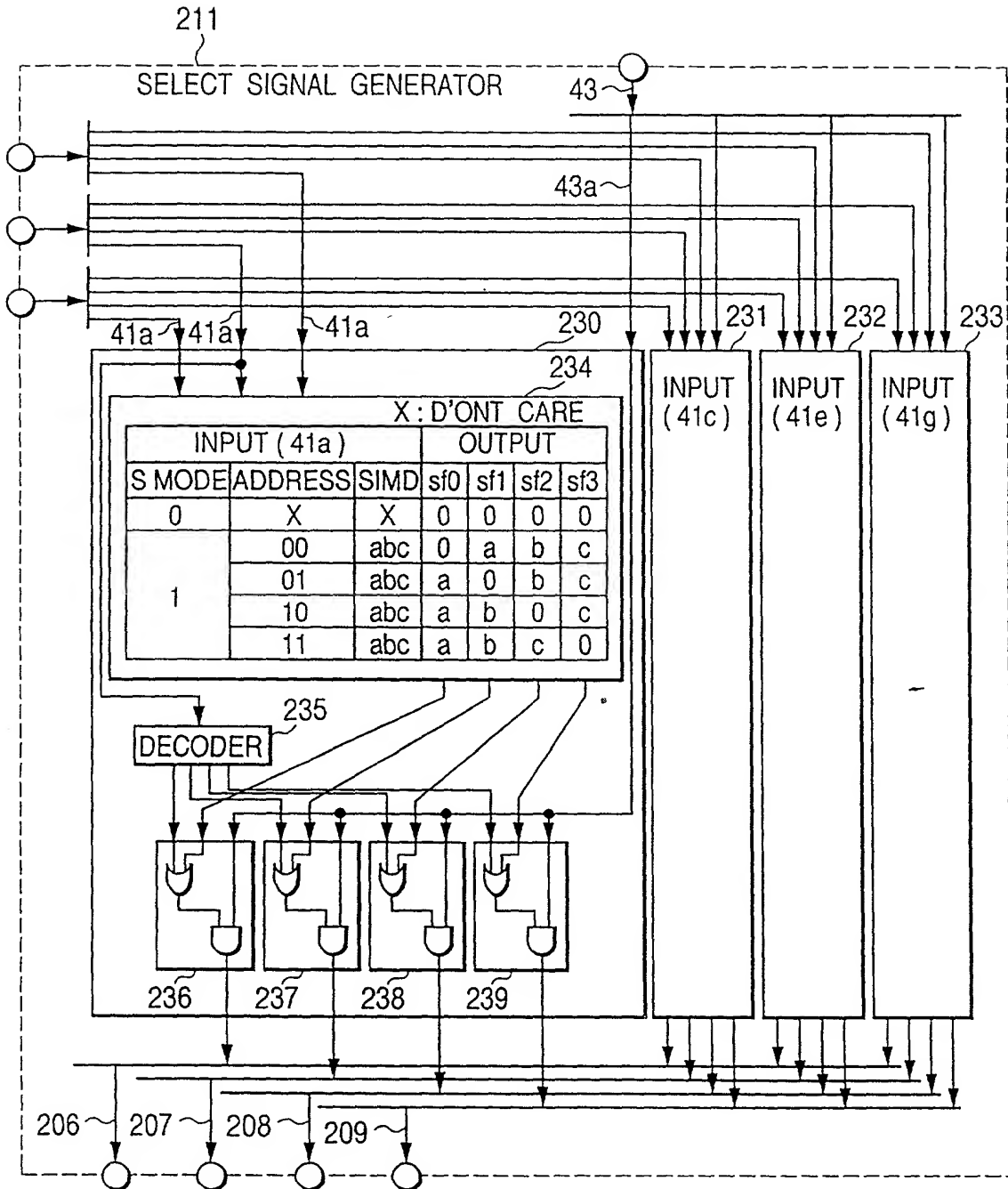


FIG. 23

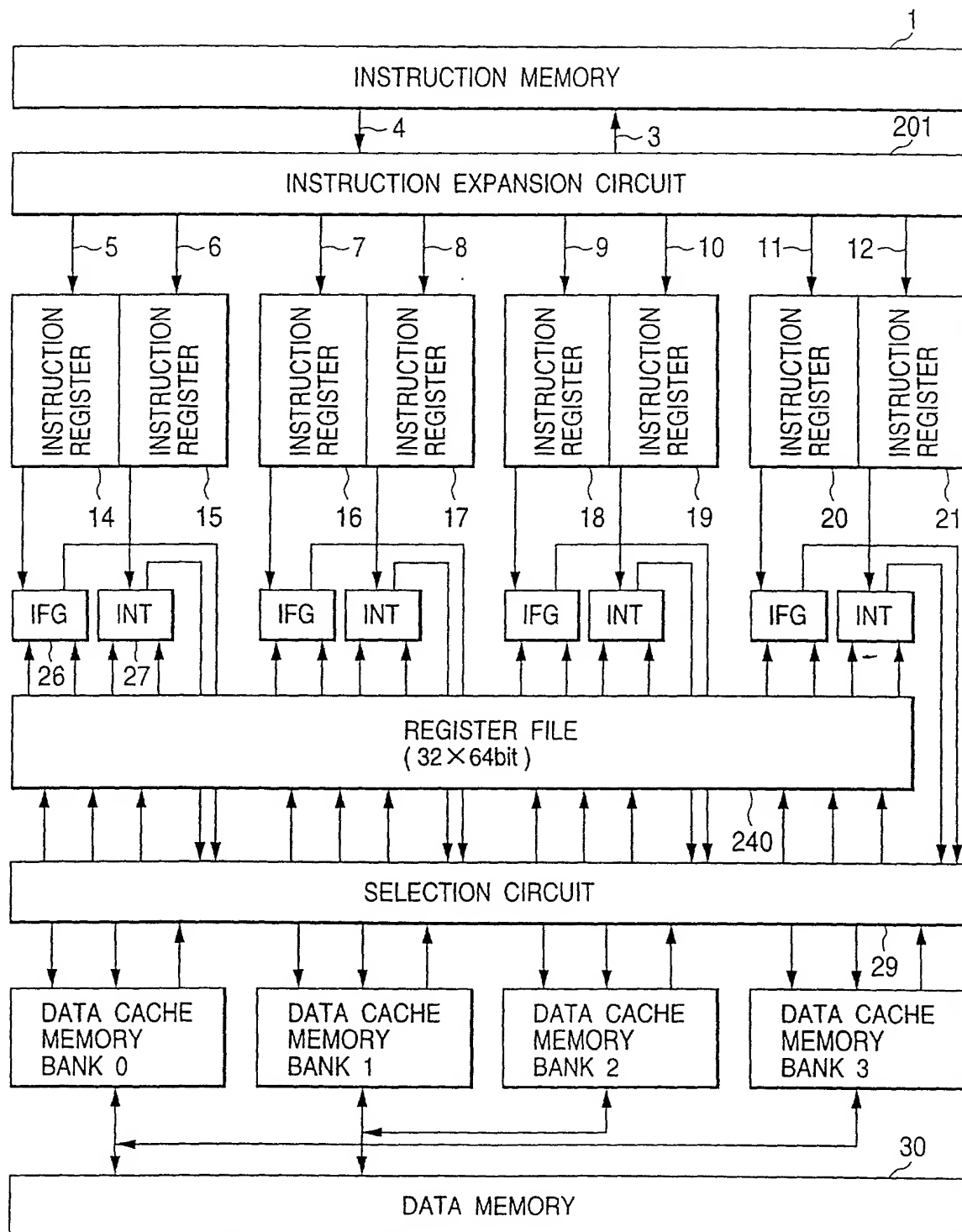


FIG. 24

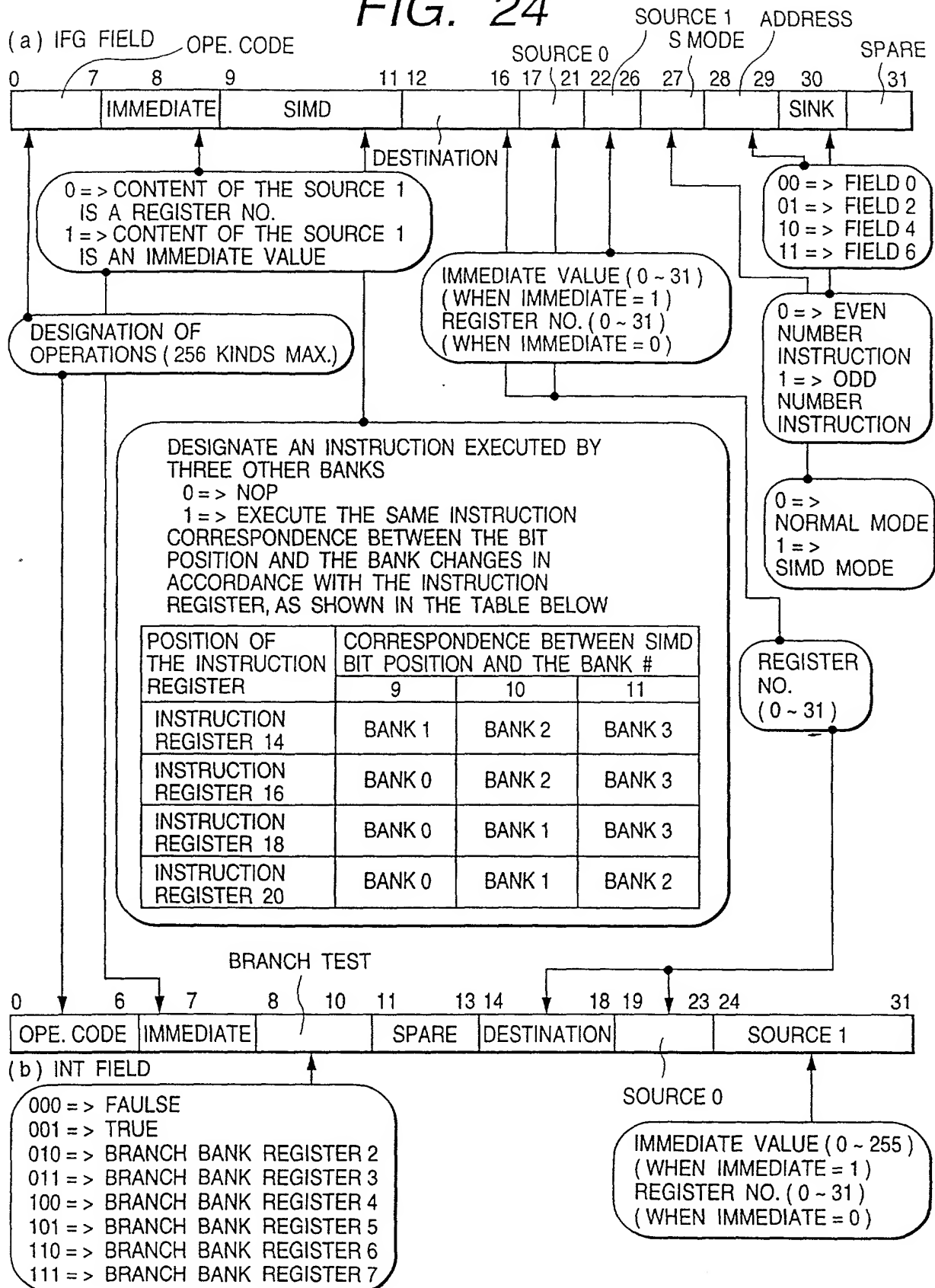


FIG. 25

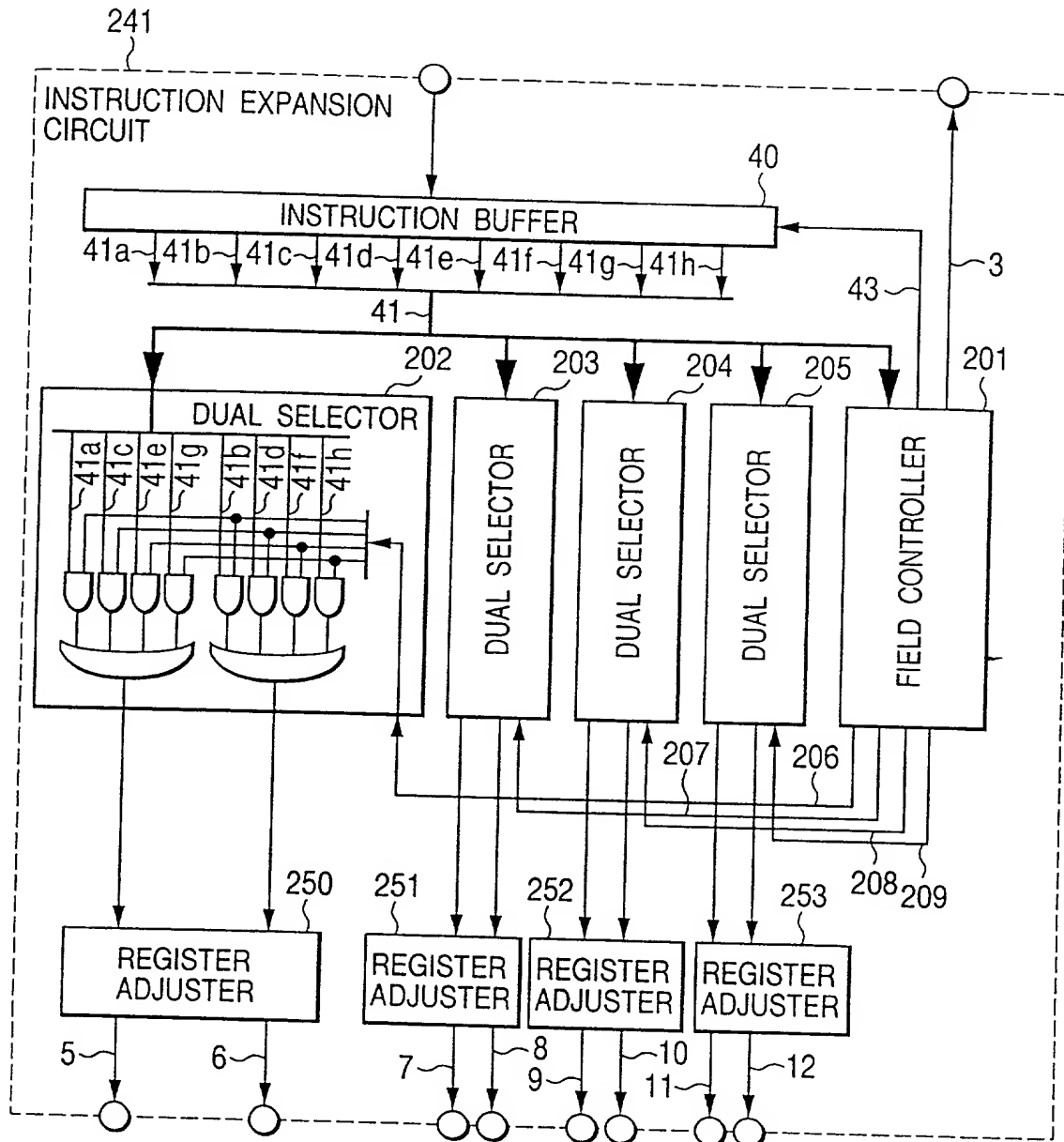


FIG. 26

INPUT FIELD			OUTPUT FIELD
S MODE	ADDRESS	REGISTER #	REGISTER #
0	X	N	N
1	00	N	N
	01	N	N + 3
	10	N	N + 2
	11	N	N + 1

FIG. 27

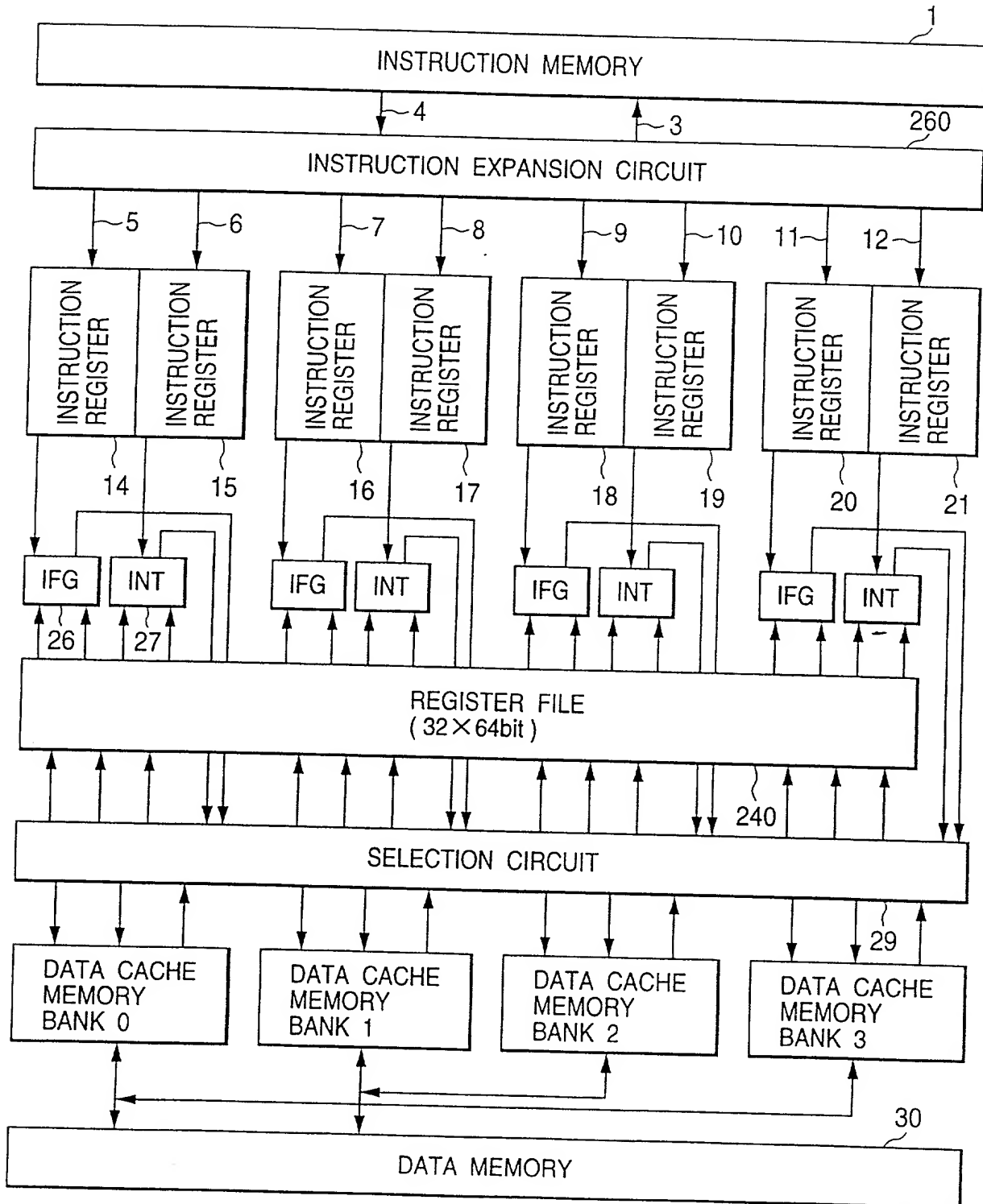


FIG. 28

(a) IFG INSTRUCTION FORMAT

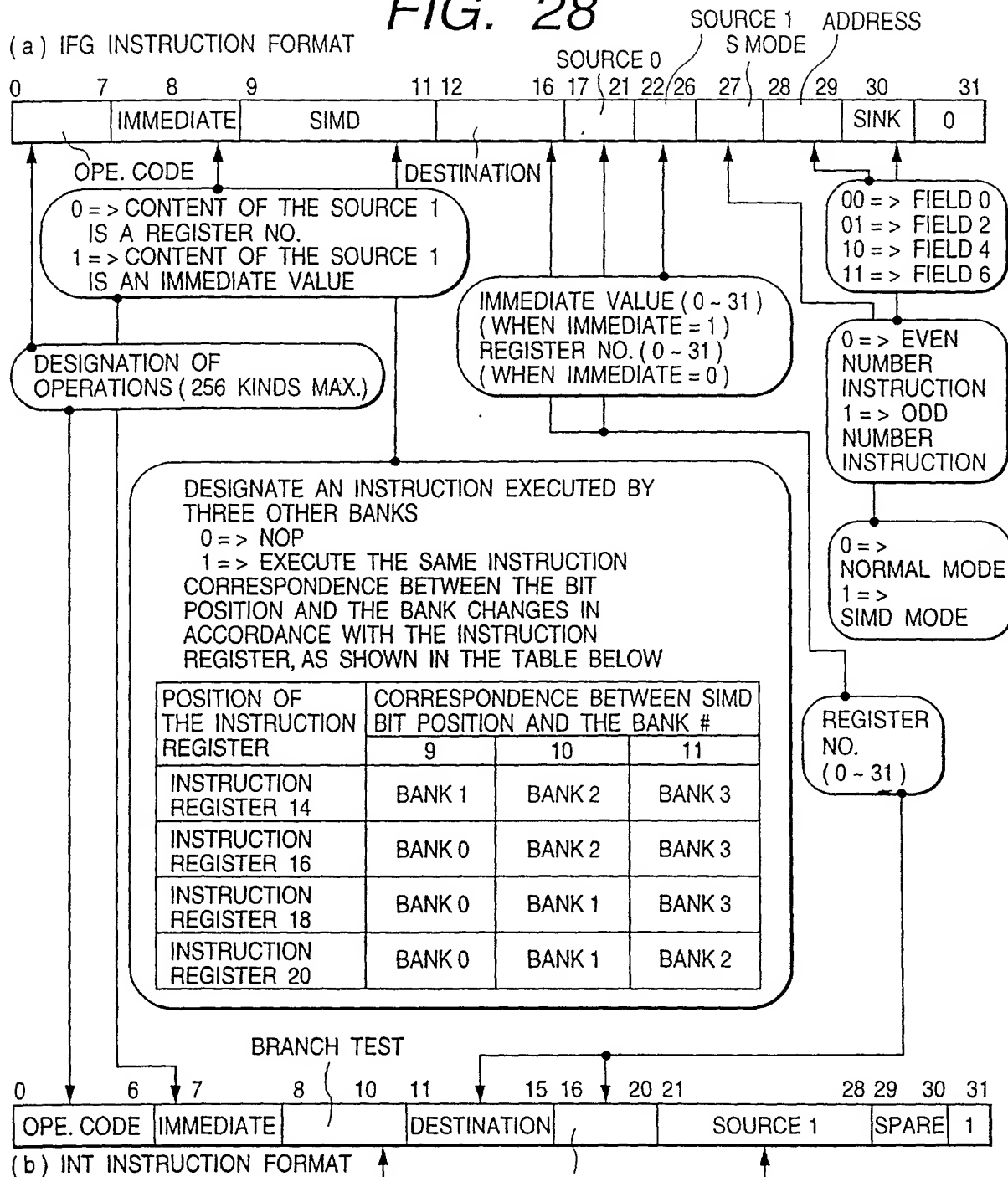


FIG. 29

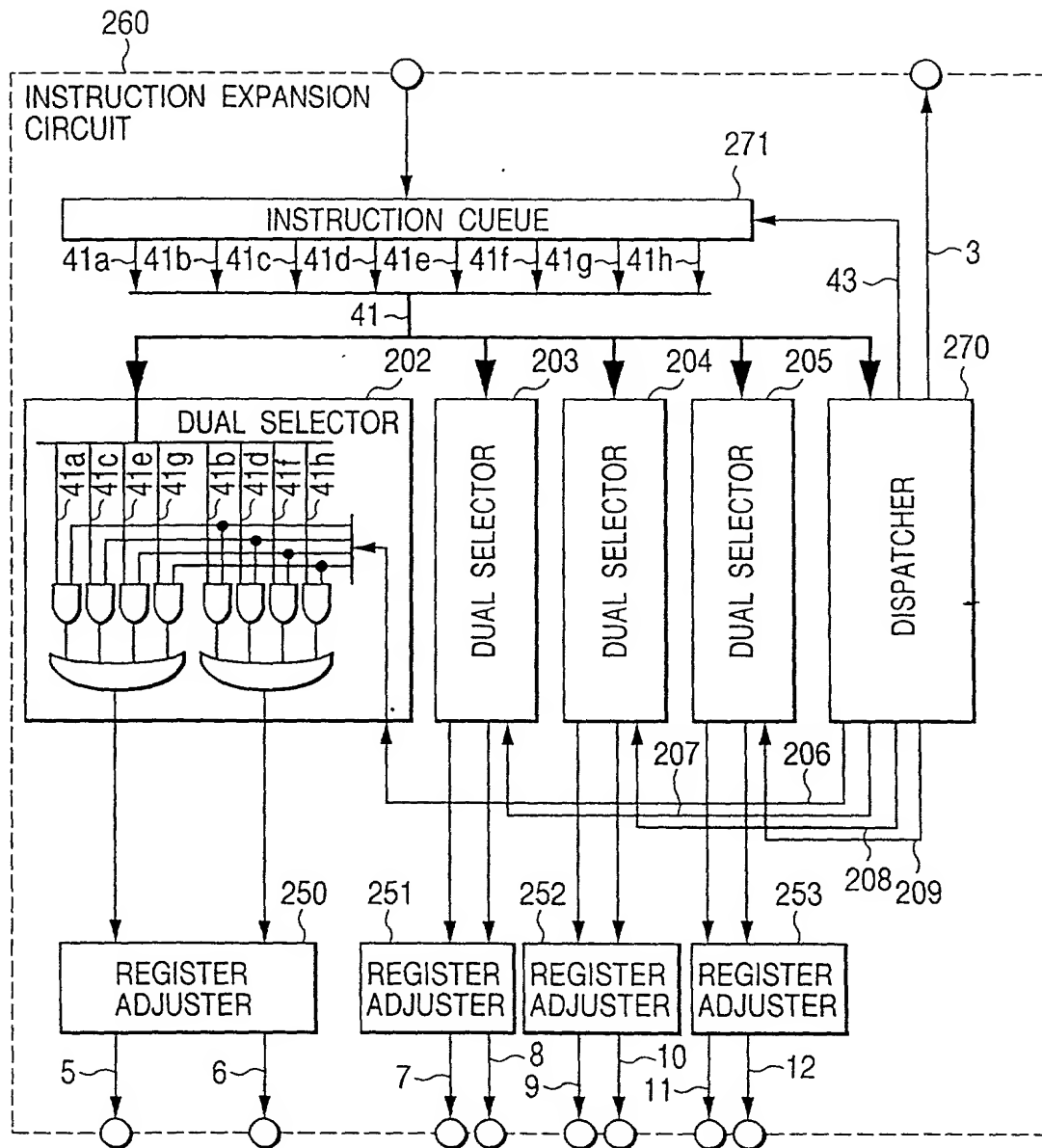


FIG. 30

